

# Association Business

## INDEX TO VOLUME 63

### Author Index

- ABDEL-WAHAB, O.A.L., W.A. WARID and T.S. DAMKOR. Stem thinning in potato as a pre-selection index, 113.
- ACASIO, R.F., A DE LOS SANTOS and P. VANDER ZAAG. Acceptance of diffused storage technology by potato farmers in the Benguet and Mountain Provinces of the Philippines, 163.
- ACCATINO, P., *see* Hidalgo, C.
- ADAMS, S.S., *see* Rouse, D.I.
- ALCAZAR, J., *see* Raymundo, S.A.
- ALFORD, A.R., J.C. CULLEN, R.H. STORCH and M.D. BENTLEY. Antifeedant and toxicological effects of limonin on Colorado beetle larvae, 415, (abstr).
- APPLE, A.E., *see* Fry, W.E.
- ARNDT, G.C. and S.J. PELOQUIN. Comparisons among true potato seed families from 4x x 2x crosses and successive generations of open pollination and selfing, 415, (abstr).
- ASSELIN, A., *see* Otrysko, B.E.
- ATLIN, G., *see* Iwanaga, M.
- AVÉ, D.A., N.T. EANNETTA and W.M. TINGEY. A modified enzymic browning assay for potato glandular trichomes, 553.
- AVÉ, D.A. and W.M. TINGEY. Phenolic constituents of glandular trichomes on *Solanum berthaultii* and *S. polyadenium*, 473.
- BAMBERG, J.B. and R.E. HANNEMAN, JR. Crossability of *S. commersonii* Dun. x Mexican species hybrids, 416, (abstr).
- BAMBERG, J.B., R.E. HANNEMAN, JR. and L.E. TOWILL. Use of activated charcoal to enhance the germination of botanical seeds of potato, 181.
- BANTTARI, E.E., *see* Franc, G.D.
- BANVILLE, G.J., *see* Otryski, B.E.
- BARTZ, J.A. and A. KELMAN. Reducing the potential for bacterial soft rot in potato tubers by chemical treatments and drying, 481.
- BATUGAL, R.P., *see* Macaso-Khwaja, A.C.
- BEAVER, G., *see* Hafez, S.I.
- BELLINDER, R.R., *see* Wallace, R.W.
- BENTLEY, M.D., *see* Alford, A.R.
- BINNING, L.K., *see* Wyman, J.A.
- BIRD, G.W., *see* Rouse, D.I.
- BISHOP, J.C., *see* Timm, H.
- BLAND, W.L. and C.B. TANNER. Potato tuber water potential components during storage, 649.
- BOE, A.A., *see* Johansen, R.H.
- BOITEAU, G., *see* Singh, R.P.
- BOITEAU, G. and M.E. DREW. The number of ovarioles of the Colorado potato beetle, *Leptinotarsa decemlineata* (Say), in four North Eastern North American localities, 233.
- BOOTH, R.H., *see* Raman, K.V.
- BOSTOCK, R.M., *see* Timm, H.
- BRAUN, H., *see* Russo, J.M.
- BUGBEE, W.M., *see* Gudmestad, N.C.

- BUNDY, L.G., R.P. WOLKOWSKI and G.G. WEIS. Nitrogen source evaluation for potato production on irrigated sandy soils, 385.
- BUTZONITCH, I.P., *see* Huarte, M.A.
- CABELLO, R., *see* Wiersema, S.G.
- CALUA, L., *see* Landeo, J.A.
- CANTELO, W.W., *see* Sanford, L.L.
- CARTER, C.D., *see* Main, D., Rahimi, F.R.
- CARTER, C.D. and G.M. CHIDIU. Host plant affects response of Colorado potato beetle to pesticide, 416, (abstr).
- CARY, J.W. Effects of relative humidity, oxygen, and carbon dioxide on initiation and early development of stolons and tubers, 619.
- CASH, J.N., *see* Santerre, C.R.
- CASTANEDA, M.M., *see* Macaso-Khwaja, A.C.
- CHASE, R.W., *see* Santerre, C.R.
- CHIDIU, G.M., *see* Carter, C.D.
- CHRIST, B.J., *see* Maczuga, S.A.
- CHUJOY, J.E. and S.J. PELOQUIN. Barriers to interspecific hybridization between *Solanum chacoense* Bitt. and *S. commersonii* Dun, 416, (abstr).
- CHUJOY, J.E. and S.J. PELOQUIN. Tuber yields of 2x x 4x progeny from 2x x 2x crosses in potato, 417, (abstr).
- COLEMAN, S.E., *see* Coleman, W.K.
- COLEMAN, W.K. Water relations of the potato (*Solanum tuberosum* L.) cultivars Raritan and Shepody, 263.
- COLEMAN, W.K., and S.E. COLEMAN. The effects of bromoethane and ethanol on potato (*Solanum tuberosum*) tuber sprouting and subsequent yield responses, 373.
- CORSINI, D. and J.J. PAVEK. Bacterial soft-rot resistant potato germplasm, 471, (abstr).
- CORSINI, D. and J.J. PAVEK. *Fusarium* dry-rot resistant potato germplasm, 629.
- CRAIG, JR., J.C., *see* Kozempel, M.F.
- CULLEN, J.C., *see* Alford, A.R.
- CURWEN, D., *see* Shields, E.J.
- DAMKOR, T.S., *see* Abdel-Wahab, O.A.L.
- DAVIDSON, R.D. and D.G. HOLM. Control of blackleg with streptomycin and oxytetracycline as a seedpiece treatment, 418, (abstr).
- DAVIS, C. and D. LeTOURNEAU. Potato protoplast development using tuber protoplasts, leaf protoplasts of new varieties, and electrofusion treatments, 418, (abstr).
- DAVIS, J.M., W.H. LOESCHER, M.W. HAMMOND and R.E. THORNTON. Response of Russet Burbank potatoes to soil fumigation and nitrogen fertilizers, 71.
- DAVIS, J.R. and L.H. SORENSEN. Benefits and problems associated with Metam-Sodium treatments on potato, 418, (abstr).
- DEAHL, K.L., *see* Sindén, L.L.
- DEAHL, K.L., L.L. SANFORD and S.L. SINDÉN. The detection of leptine glycoalkaloids in *Solanum tuberosum* x *chacoense* hybrids, 419, (abstr).
- DE BOER, S.H., *see* Maher, E.A.
- DE BOER, S.H. and M.E. McNAUGHTON. Evaluation of immunofluorescence with monoclonal antibodies for detecting latent bacterial ring rot infections, 533.
- DE JONG, H. Inheritance of pigmented tuber flesh in cultivated diploid potatoes, 419, (abstr).
- DE LA CRUZ, A.A., *see* Wacaso-Khwaja, A.C.
- DELLA MONICA, E.S., *see* Egoville, M.J.
- DE LOS SANTOS, A., *see* Acasio, R.F.
- DEN, V.B., *see* Hoang, V.T.
- DE ZOETEN, G.A., *see* Hosaka, K.

- DODD, J.B. and R.E. HANNEMAN, JR. Hoyer's solution: a rapid clearing and mounting medium found useful in the study of *Solanum* embryology, 419, (abstr).
- DOUCHES, D.S. and C.F. QUIROS. Genetic analysis of a diploid synaptic mutant through electrophoretic markers, 420, (abstr).
- DOUCHES, D.S. and C.F. QUIROS. Development of genetic strategies to determine the mode of 2n egg formation in diploid potatoes, 420, (abstr).
- DREW, M.E., *see* Boiteau, G.
- DRISCI, C., *see* Hildago, O.
- DUEÑAS, R.C., *see* Rabinowitz, D.
- EANNETTA, N.T., *see* Avé, D.A.
- EGOVILLE, M.J., J.F. SULLIVAN, M.F. KOZEMPEL and E.S. DELLA MONICA. Processed potatoes—ascorbic acid determination, 421, (abstr).
- ESPINOZA, J., *see* Mendoza, H.A.
- EVENSEN, K.B., *see* Russo, J.M.
- EWELL, P.T. and K.V. RAMAN. Socio-economic issues of insect pest management in Peru, 421, (abstr).
- EWING, E.E., *see* Lorenzan, J.H., Reynolds, M.P., Rowell, A.B., Sieczka, J.B., Snyder, R.C. and Turner, A.D.
- EWING, E.E., W.D. HEYM and J. SCHUSDEK. Prospects for modeling potato defoliation, 422, (abstr).
- FARMER, G.S., D.A. HAITH and G.B. WHITE. A review of potato growth models, 422, (abstr).
- FARNSWORTH, B., *see* Johansen, R.H.
- FERNANDEZ, B., *see* Hoang, V.T.
- FERNANDEZ-NORTHCOTE, E.N., H.A. MENDOZA and R. GALVEZ. Breeding for Potato Virus Y (PVY) immunity combined with earliness and tolerance to heat, 422, (abstr).
- FERRO, D.N. Colorado potato beetle control strategies, 423, (abstr).
- FLANDERS, K.L. and E.B. RADCLIFFE. Evaluating the U.S. potato germplasm collection for resistance to potato leafhopper and potato flea beetle, 423, (abstr).
- FLORINI, D.A. and R. LORIA. Increase of *Pratylenchus penetrans* on crops suitable for rotation with potato, 424, (abstr).
- FONG, N., *see* Pallais, N.
- FRANC, G.D. and E.E. BANTTARI. Comparison of latex agglutination, enzyme-linked immunosorbent assay, and indicator plants for detection of potato viruses S and X in potatoes, 357.
- FRENCH, E.R. and C. OCHOA. Resistance to *Pseudomonas solanacearum* in several wild species of tuberizing *Solanum*, 424, (abstr).
- FRITZ, N.K. and R.E. HANNEMAN, JR. Interspecific stylar barriers in potatoes, 425, (abstr).
- FRY, W.E. and A.E. APPLE. Disease management implications of age-related changes in susceptibility of potato foliage to *Phytophthora infestans*, 47.
- FRY, W.E., J.R. PELLETIER and M.G. MILGROOM. Optimal fungicide use strategies for potato plants, 425, (abstr).
- GALVEZ, R., *see* Fernandez-Northcote, E.N.
- GARCIA, R., *see* Pallais, N.
- GARDNER, W.H., *see* Kunkel, R.
- GEURARD, J.P., *see* Timm, H.
- GHATE, S.R., C.A. JAWORSKI, S.C. PHATAK and R.D. GITAITIS. Engineering needs for potato production from true seed, 131.
- GILES, J., *see* Nelson, D.C.
- GITAITIS, R.D., *see* Ghate, S.R.

- GOLMIRZAIE, A.M. and H.A. MENDOZA. Effect of early selection for seedling vigor on open-pollinated true potato seed, 426, (abstr).
- GOMERO, L., see Pallais, N.
- GOSSELIN, B., see Mondy, N.I.
- GOSSELIN, B. and N.I. MONDY. Effects of soil applications of magnesium sulfate and dolomite on the quality of potato tubers, 426, (abstr).
- GOSSELIN, B., L.M. NAYLOR and N.I. MONDY. Uptake of PCBs by potatoes grown on sludge-amended soils, 563.
- GOTH, R.W. and R.E. WEBB. Rapid method to assess virulence of potato scab isolates of *Streptomyces scabies*, 427, (abstr).
- GRUN, P. Parental effects on vigor and yield of potatoes, 427, (abstr).
- GUDMESTAD, N.C., see Johansen, R.H.
- GUDMESTAD, N.C., W.M. BUGBEE, G.A. SECOR and P. NOLTE. Comparative virulence of *Corynebacterium sepedonicum* strains of potato and sugar beet origin, 427, (abstr).
- GUDMESTAD, N.C., G.A. SECOR and P. NOLTE. Factors affecting the expression of *Erwinia*-caused diseases of potato, 428, (abstr).
- HAFEZ, S.L. K. HARA and G. BEAVER. The effect of Vapam on Columbia root-knot nematode *Meloidogyne chitwoodi*, 428, (abstr).
- HAMPSON, C.P., R.M.J. STOREY and D.J. SHACKLEY. Effects of irradiation on storage losses and processing potential, 429, (abstr).
- HARRISON, M.D., see Jorge, P.E.
- HAMMOND, M.W., see Davis, J.M.
- HANNEMAN, JR., R.E., see Bamberg, J.B., Dodd, J.B., Fritz, N.K., Hosaka, K., Parrott, W.A. and Singsit, C.
- HANNEMAN, JR., R.E. and J.C. SANFORD. Reciprocal cross differences and the advancement of germplasm in bulk populations undergoing recurrent selection, 429, (abstr).
- HAITH, D.A., see Farmer, G.S.
- HARA, K., see Hafez, S.L.
- HAYNES, F.L., see Haynes, K.G., Herriott, A.B.
- HAYNES, F.L., K.G. HAYNES and R.H. MOLL. Maintenance and improvement of tuber dry matter in a diploid breeding population, 430, (abstr).
- HAYNES, K.G., see Haynes, F.L.
- HAYNES, K.G., F.L. HAYNES and W.H. SWALLOW. Variability of lowering and unreduced pollen production in diploid potatoes under high temperature, 430, (abstr).
- HENSEL, D.R., see Rhue, R.D.
- HERMUNDSTAD, S. and S.J. PELOQUIN. Characteristics of haploid-wild species *F<sub>2</sub>* families, 430, (abstr).
- HERRIOTT, A.B., F.L. HAYNES, JR. and P.B. SHOEMAKER. The heritability of resistance to early blight in diploid potatoes (*Solanum tuberosum*, subsp. *phureja* and *stenotomum*), 229.
- HEYM, W.D., see Ewing, E.E.
- HIDALGO, O. and P. ACCATINO. Progress on CIP's collaborative and training for the development of national potato programs of region II in South America, 431, (abstr).
- HIDALGO, O., C. DRISCI and F. VILARO. Yield reduction due to PLRV secondary infection in cv. Kennebec in Uruguay, 431, (abstr).
- HIDALGO, O. and J.S. ROJAS. Performance of whole and cut pre-sprouted seed (cv. Kennebec) used as planting material in the south of Chile, 432, (abstr).
- HOANG, V.T., P.X. LIEM, V.B. DEN, N.X. LINH, P.X. TUNG, B. SUSANA, B. FERNANDEZ, J. KLOOS and P. VANDER ZAAG. True potato seed: the status in Vietnam and the Philippines, 433, (abstr).

- HOLM, D.G., *see* Davidson, R.D.  
HOLSTAD, N.M., *see* Kunkel, R.  
HOOPES, R.W., R.L. PLAISTED and H.D. THURSTON. Seedling screening for early blight resistance, 433, (abstr).  
HOSAKA, K. Leaf shape variation in tuber-bearing *Solanum* species, 434, (abstr).  
HOSAKA, K. and R.E. HANNEMAN, JR. Chloroplast genomic variation in *Solanum tuberosum* ssp. *andigena*, 435, (abstr).  
HOSAKA, K., G.A. DE ZOETEN and R.E. HANNEMAN, JR. Chloroplast DNA of the common potato, 434, (abstr).  
HUAMAN, Z. Studies on the identification of potato germplasm with high yielding potential under minimum fertilizer input, 435, (abstr).  
HUARTE, M.A., A.O. MENDIBURU, M.C. MONTE and I.P. BUTZONITCH. Serrana INTA: A widely adapted, virus resistant potato cultivar from Argentina, 695.  
HUGHES, D.L., *see* Timm, H.  
HUNG, YUNG-TSE. Fill-and-draw activated treatment of potato wastewater with bio-augmentation, 435, (abstr).  
INDEX TO VOLUME 63, 709.  
IRITANI, W.M. Fungicide treatments and multiple sprouting of seed tubers, 436, (abstr).  
IVANY, J.A., R.P. WHITE and J.B. SANDERSON. Effect of applied fertilizer on Kennebec potato top desiccation and yield with diquat, 545.  
IWANAGA, M. and G. ATLIN. The effect of inbreeding on male fertility parameters in the potato, 436, (abstr).  
IWANAGA, M. and P. JATALA. Breeding of potato for resistance to root-knot nematodes. *Meloidogyne incognita*: transfer of resistance from wild diploid species to 4x cultivars, 437, (abstr).  
JAMIESON, A.A., *see* Loria, R.  
JATALA, P., *see* Iwanaga, M.  
JAWORSKI, C.A., *see* Ghate, S.R.  
JOHANSEN, R.H., B. FARNSWORTH, D.C. NELSON, G.A. SECOR, N. GUDMESTAD, P.H. ORR and A.A. BOE. Northing Russet: A new russet-skinned potato cultivar, 701.  
JOHNSON, K., *see* Rouse, D.L.  
JOHNSTON, R.L. and L.E. SANDVOL. Susceptibility of Idaho populations of Colorado potato beetle to four classes of insecticides, 81.  
JONES, E.D., *see* Zitter, T.A.  
JORGE, P.E. and M.D. HARRISON. The association of *Erwinia carotovora* with surface water in northeastern Colorado. I. The presence and population of the bacterium in relation to location, season and water temperature, 517.  
KAGENZI, C., *see* Zagg, P. vander.  
KELLING, K.A., *see* Tzeng, K.C.  
KELMAN, A., *see* Bartz, J.A., Maher, E.A. and Tzeng, K.C.  
KEMPTER, A., *see* Loria, R.  
KIDDER, G., *see* Rhue, R.D.  
KLOOS, J., *see* Hoang, V.T.  
KNUTSON, K.W., *see* Thornton, M.K.  
KOTCH, G.P. and S.J. PELOQUIN. Variations among tuberosum haploids in tuber quality characteristics, 437, (abstr).  
KOZEMPEL, M.F., *see* Egovalle, M.J.  
KOZEMPEL, M.F., J.C. CRAIG, JR., J.F. SULLIVAN and R.L. STABILE. Potato processing simulation, 438, (abstr).  
KUNKEL, R., W.H. GARDNER and N.M. HOLSTAD. Improvement of techniques for potato blackspot evaluation and some errors associated with measurements, 13.  
LADD, JR., T.L., *see* Sanford, L.L.

- LANDEO, J.A. and L. CALUA. Combining ability analysis for field resistance to late blight in potato seedlings, 438, (abstr).
- LAUER, D.A. Russet Burbank yield response to sprinkler-applied nitrogen fertilizer, 61.
- LAUER, D.A. Response of Nooksack potatoes to nitrogen fertilizer, 251.
- LEE, G.S., Effects of ammonium and nitrate sources of nitrogen on potato growth and development, 439, (abstr).
- LeTOURNEAU, D., *see* Davis C.
- LEVY, D. Potato propagation through the use of *in vitro* proliferated cuttings transferred directly into the field, 439, (abstr).
- LEVY, D., E. PEHU and R. VEILEUX. Photosynthesis efficiency and dry matter partitioning of clone PP5 (*Solanum phureja*), its anther-derived tetraploids and its cross with *S. tuberosum* cv. Atlantic., 439, (abstr).
- LIEM, P.X., *see* Hoang, V.T.
- LINH, N.X., *see* Hoang, V.T.
- LOESCHER, W.H., *see* Davis, J.M.
- LORENZEN, J.H. and E.E. EWING. Determining growth and maintenance respiration in potato leaves, 440, (abstr).
- LORIA, R., *see* Florini, D.A.
- LORIA, R., A. KEMPTER and A.A. JAMIESON. Characteristics of *Streptomyces* spp. causing potato scab in the northeast, 440, (abstr).
- LYNCH, D.R. and G.B. SCHAALJE. The use of canonical discriminant analysis in assessing the merit of crosses in terms of breeding goals, 441, (abstr).
- MAATTA, C., *see* Sieczka, J.B.
- MACASO-KHWAJA, A.C., R.P. BATUGAL, A.A. DE LA CRUZ, M.M. CASTANEDA and J.P. VALDEZ. Breeding strategies for achieving uniform, high yielding true potato seed families in the Philippines, 441, (abstr).
- MACZUGA, S.A. and B.J. CHRIST. Growth of two *Alternaria* species on media containing mancozeb, chlorothalonil, and metalaxyl with zinc, 441, (abstr).
- MAIN, D. and C.D. CARTER. Inter- and intra-accessional variability in *Solanum* for non-preference antibodies and tolerance to Colorado potato beetle, 442, (abstr).
- MALAMUD, O.S. and U. OR. Micro-irrigation potential in potato cultivation, 442, (abstr).
- MAHER, E.A., S.H. DE BOER and A. KELMAN. Serogroups of *Erwinia carotovora* involved in systemic infection of potato plants and infestation of progeny tubers, 1.
- MANZER, F.E., *see* Storch, R.H.
- MARCA, J.L., *see* Mendoza, H.A.
- MARKWARDT, E.D., *see* Sieczka, J.B.
- MARTIN, C., *see* Mendoza, H.A., Schmiediche, P. and Torres, H.
- MARTIN, C., H. TORRES and H. MENDOZA. Development of an early blight seedling screening test in potatoes, 444, (abstr).
- MARTIN, M.W. and D.E. MILLER. Differential reaction of cultivars to gradually declining irrigation rates or interruptions in irrigation, 443, (abstr).
- McLEOD, C.D., *see* Miesner, G.C.
- McNAUGHTON, M.E., *see* De Boer, S.H.
- MENDIBURU, A.O., *see* Huarte, M.A.
- MENDOZA, H.A., *see* Fernandez-Northcote, E.N., Golmirzaie, A.M. and Martin, C.
- MENDOZA, H.A. and J.L. MARCA. Performance of selfed, open pollinated, and hybrid progenies in a *Solanum tuberosum* ssp. *andigena* population, 444, (abstr).
- MENDOZA, H.A., C. MARTIN, R. VALLEJO and J. ESPINOZA. Breeding for resistance to early blight (*Alternaria solani*), 444, (abstr).
- MILGROOM, M.G., *see* Fry, W.E.
- MILLER, D.F., *see* Martin, M.W.
- MILLER, P.D. and S.L. SINDEN. Electroporation of potato protoplasts, 445, (abstr).

- MIESENER, G.C. and C.D. McLEOD. The effect of stone windrowing on potato harvesting, 495.
- MOGAN, K.L. and D.C. NELSON. Some anatomical and physiological potato tuber characteristics and their relationship to hollow heart, 609.
- MOLL, R.H., *see* Haynes, F.L.
- MONDY, N.I., *see* Gosselin, B.
- MONDY, N.I., B. GOSSELIN and L.M. NAYLOR. Nitrate-nitrogen content of potatoes as affected by sludge-amended soil, 379.
- MONTI, M.C., *see* Huarte, M.A.
- MORROW, L.S., *see* Porter, G.A.
- MURPHY, H.J., *see* Porter, G.A.
- NAYLOR, L.M., *see* Gosselin, B. and Mondy, N.I.
- NELSON, D.C., *see* Johansen, R.H., Mogan, K.L. and Rouse, D.I.
- NELSON, D.C. and J.F. GILES. Implications of postemergence tillage on root injury and yields of potatoes, 445, (abstr).
- NELSON, D.C. and M.C. THORESON. Relationships between tuber size and time of harvest to hollow heart initiation in dryland Norgold Russet potatoes, 155.
- NELSON, G.A. Freeing Russet Burbank potato plants from ring rot by stem cutting and tuber propagation, 411.
- NEUNDORFER, R., *see* Thornton, M.K.
- NIEDERHAUSER, J.S. and M. VILLARREAL. PRECODEPA, a successful model for a new concept in regional cooperation for international agricultural development, 237.
- NOLTE, P., *see* Gudmestad, N.C.
- OCHOA, C., *see* French, E.R.
- OLIVIERA, D.B., *see* Rabinowitz, D.
- OR, U., *see* Malamud, O.S.
- ORR, P.H., *see* Johansen, R.H.
- OTRYSKO, B.E., G.J. BANVILLE and A. ASSELIN. The influence of the degree of autonomy of daughter tubers on their receptivity to black scurf, 446, (abstr).
- PALACIOS, M., *see* Raman, K.V.
- PALLAIS, N., S. VILLAGARCIA, L. GOMERO, J. TAPIS, R. GARCIA and N. FONG. Effect of supplemental nitrogen on 100 true potato seed weight, 446, (abstr).
- PALTA, J.P., *see* Wheeler, R.N. and Struckmeyer, B.E.
- PARENT, J.G. Extracellular pathogenesis-related proteins in potato cultivars infected with tobacco mosaic virus, 447, (abstr).
- PARROTT, W.A. and R.E. HANNEMAN, JR. Modified monosporic megasporogenesis in *Solanum commersonii* Dun. 447, (abstr).
- PAVEK, J.J., *see* Corsini, D.
- PELOQUIN, S.J., *see* Arndt, G.C., Chujo, J.E., Hermundstad, S., Kotch, G.P. and Werner, J.E.
- PEHU, E., *see* Levy, D.
- PELLETIER, J.R., *see* Fry, W.E.
- PHATAK, S.C., *see* Ghate, S.R.
- PLAISTED, R.L., *see* Hoopes, R.W., Rowell, A.B., Vilaro, P.L.
- PORTER, G.A., L.S. MORROW and H.J. MURPHY. Boron fertilization of Katahdin potatoes under acid soil conditions, 448, (abstr).
- PRANGE, R.K., *see* Sipos, J.
- PRANGE, R.K. Chlorophyll fluorescence *in vivo* as an indicator of water stress in potato leaves, 325.
- QUIROS, C.F., *see* Douches, D.S.
- RABINOWITZ, D., R.O. DUENAS and D.B. OLIVIERA. Causes of mortality in true potato seeds buried in soil in the Peruvian Andes, 448, (abstr).



- RADCLIFFE, D.G., *see* Radcliffe, E.B.
- RADCLIFFE, E.B., *see* Flanders, K.L.
- RADCLIFFE, E.B. and D.G. RADCLIFFE. Evaluating the U.S. potato germplasm collection for resistance to Colorado potato beetle, 448, (abstr).
- RAHIMI, F.R. and C.D. CARTER. Screening for resistance to Colorado potato beetle in tuberous *Solanum* species, 449, (abstr).
- RAMAN, K.V., *see* Ewell, P.T.
- RAMAN, K.V., R.H. BOOTH and M. PALACIOS. Control of potato tuber moth, *Phthorimaea operculella* (Zeller) in rustic potato stores of Peru, 449, (abstr).
- RAYMUNDO, S.A. and J. ALCAZAR. Effects of soil solarization, dazomet and bromoethane on root knot nematode and yield of potatoes, 450, (abstr).
- RAYMUNDO, S.A. and J. ALCAZAR. Soil solarization with plastic tarp of varying thicknesses and control of root knot nematode on potato, 451, (abstr).
- REYNOLDS, M.P. and E.E. EWING. Screening accessions from the IR-1 potato collection for heat tolerance, 451, (abstr).
- REYNOLDS, M.P. and E.E. EWING. Effect of air and soil temperatures on potato tuberization, 451, (abstr).
- RHUE, R.D., D.R. HENSEL and G. KIDDER. Effect of K fertilization on yield and leaf nutrient concentrations of potatoes grown on a sandy soil, 665.
- ROJAS, J.S., *see* Hidalgo, O.
- ROUSE, D.I., S.S. ADAMS, G.W. BIRD, K. JOHNSON, D.C. NELSON and P.S. TENG. Evaluation of models for predicting potato plant growth and yield in the presence of selected pests, 452, (abstr).
- ROWELL, A.B., E.E. EWING and R.L. PLAISTED. General combining ability of neotuberosum for potato production from true seed, 141.
- ROWELL, A.B., E.E. EWING and R.L. PLAISTED. Selection for improvement of potato populations grown from true seed, 207.
- ROWELL, A.B., E.E. EWING and R.L. PLAISTED. Comparative field performance of potatoes from seedlings and tubers, 219.
- RUBERSON, J.R., M.J. TAUBER and C.A. TAUBER. Differential responses to *Edovum puttleri* biotypes to developing eggs of the Colorado potato beetle, 452, (abstr).
- RUSO, J.M., K.B. EVENSEN and H. BRAUN. A scheme for potato processing decision making, 452, (abstr).
- SANFORD, J.C., *see* Hanneman, Jr., R.E.
- SANFORD, L.L., *see* Deahl, K.L. and Sinden, S.L.
- SANFORD, L.L. and W.W. CANTELO. Resistance to Colorado potato beetle in *Solanum* species, 453, (abstr).
- SANFORD, L.L. and T.L. LADD, JR. Tolerance to potato leafhopper in *Solanum tuberosum* L. gp. tuberosum clones, 39.
- SANDERSON, J.B., *see* Ivany, J.A.
- SANDERSON, P., *see* Stevenson, W.R.
- SANDVOL, L.E., *see* Johnston, R.L.
- SANTERRE, G.R., J.N. CASH and R.W. CHASE. Influence of cultivar, harvest-date and soil nitrogen on sucrose, specific gravity and storage stability of potatoes grown in Michigan, 99.
- SCHAALJE, G.B., *see* Lynch, D.R.
- SCHMIEDICHE, P. and C. MARTIN. The use of wild species in breeding for resistance to bacterial wilt (*Pseudomonas solanacearum*), 453, (abstr).
- SCHUSDEK, J., *see* Ewing, E.E.
- SCURRAH, M. One cycle of selection for resistance to potato tuber moth, 454, (abstr).
- SECOR, G.A., *see* Gudmestad, N.C. and Johansen, R.H.
- SEWELL, G.H., *see* Storch, R.H.



- SHACKLEY, D.J., *see* Hampson, C.P.
- SHIELDS, E.J. and D. CURWEN. Potato IPM in Wisconsin: 4 years after the Extension Pilot Program, 454, (abstr).
- SHOEMAKER, P.B., *see* Herriott, A.B.
- SIECZKA, J.B. and E.E. EWING. The effects of defoliation on plant growth and tuber yield, 455, (abstr).
- SIECZKA, J.B., E.E. EWING and E.D. MARKWARDT. Potato planter performance and effects of non-uniform spacing, 25.
- SIECZKA, J.B. and C. MAATTA. The effects of handling on chip color and sugar content of potato tubers, 363.
- SIMMONS, K.E., *see* Tzeng, K.C.
- SINDEN, S.L., *see* Deahl, K.L. and Miller, P.D.
- SINDEN, S.L., K.L. DEAHL and L.L. SANFORD. A new alkaloid in a protoplast fusion hybrid, 455, (abstr).
- SINGH, R.P. and G. BOITEAU. Reevaluation of the potato aphid, *Macrosiphum euphorbiae* (Thomas), as vector of potato virus Y, 335.
- SINGSIT, C. and R.E. HANNEMAN, JR. Regeneration of haploids from microspores via anther culture in 4x Mexican species, 456, (abstr).
- SIPOS, J. and R.K. PRANGE. Response of ten potato cultivars to temperature as measured by chlorophyll fluorescence *in vivo*, 683.
- SNYDER, R.G. and E.E. EWING. Simulation modeling and growth analysis in the potato, 456, (abstr).
- SORENSEN, L.H., *see* Davis, J.R.
- STABILE, R.L., *see* Kozempel, M.F.
- STEFFEN, K.L., *see* Wheeler, R.M.
- STEVENSON, W.R., *see* Wyman, J.A.
- STEVENSON, W.R., J. STEWART and P. SANDERSON. The effect of thiabendazole seedpiece treatment on Monona potatoes in Wisconsin, 191.
- STEWART, J., *see* Stevenson, W.R.
- STORCH, R.H., *see* Alford, A.R.
- STORCH, R.H., F.E. MANZER and G.H. SEWELL. Insecticidal control of acid tolerant scab and soil arthropods, 456, (abstr).
- STOREY, R.M.J., *see* Hampson, C.P.
- STRUCKMEYER, B.E. and J.P. PALTA. Anatomical evidence for the existence of roots on potato tubers and stolons, 57.
- STRUICK, P.C. Effects of shading during different stages of growth on development, yield and tuber-size distribution of *Solanum tuberosum* L., 457, (abstr).
- SULLIVAN, J.F., *see* Egoville, M.J. and Kozempel, M.F.
- SUSANA, B., *see* Hoang, V.T.
- SWALLOW, W.H., *see* Haynes, K.G.
- TAI, G.C.C. and T.R. TARN. Comparison of different selection strategies in an *Andigena* breeding population, 457, (abstr).
- TANNER, C.B., *see* Bland, W.L.
- TAPIS, J., *see* Pallais, N.
- TARN, T.R., *see* Tai, G.C.C.
- TAUBER, M.J., *see* Ruberson, J.R.
- TENG, P.S., *see* Rouse, D.I.
- THORESON, M.C., *see* Nelson, D.C.
- THORNTON, M.K. and K.W. KNUTSON. Effect of transplant container volume and growing season length on field performance of micropropagated potatoes, 399.
- THORNTON, M.K. and R. NEUNDORFER. Field performance of minitubers as affected by size and greenhouse harvest date, 458, (abstr).

- THORNTON, R.E., *see* Davis, J.M.  
THURSTON, H.D., *see* Hoopes, R.W.  
TIBBITTS, T.W., *see* Wheeler, R.W.  
TIMM, H., R.M. BOSTOCK, J.C. BISHOP and J.P. GEURARD. The cultural and handling procedure link to the incidence of lenticel infection and postharvest decay of potatoes, 458, (abstr).  
TIMM, H., D.L. HUGHES and M.L. WEAVER. Effect of exposure time of ethylene on potato sprout development, 655.  
TINGEY, W.M., *see* Avé, D.A. and Ivany, J.A.  
TORRES, H., *see* Martin, C.  
TORRES, H. and C. MARTIN. Field screening for resistance to potato smut in Peru, 559.  
TOWILL, L.E., *see* Bamberg, J.B.  
TUNG, P.X., *see* Hoang, V.T.  
TURNER, A.D. and E.E. EWING. The effect of photoperiod, night temperature and light intensity on flowering in potatoes, 459, (abstr).  
TZENG, K.C., A. KELMAN, K.E. SIMMONS and K.A. KELLING. Relationship of calcium nutrition to internal brown spots of potato tubers and sub-apical necrosis of sprouts, 87.  
VALDEZ, J.P., *see* Macaso-Khwaja, A.C.  
VALENCIA, L. Studies on resistance of potato tubers to the potato moth *Phthorimaea operculella* (Zeller) in Colombia, 460, (abstr).  
VALLEJO, R., *see* Mendoza, H.A.  
VEILEUX, R., *see* Levy, D.  
VILARO, F., *see* Hidalgo, O.  
VILARO, F.L. and R.L. PLAISTED. Gene-cytoplasmic male sterilities in *Neotuberosum* and *Andigena* populations, 460, (abstr).  
VILLAGARCIA, S., *see* Pallais, N.  
VILLARREAL, M., *see* Niederhauser, J.S.  
WALGENBACH, J.F., *see* Wyman, J.A.  
WALLACE, R.W. and R.R. BELLINDER. Evaluation of reduced tillage and pesticide programs on weed and Colorado potato beetle populations and yield of potatoes, 461, (abstr).  
WANG, M., *see* Zitter, T.A.  
WARID, W.A., *see* Abdel-Wahab, O.A.L.  
WEAVER, M.L., *see* Timm, H.  
WEBB, R.E., *see* Goth, R.W.  
WEIS, G.G., *see* Bundy, L.G.  
WERNER, J.E. and S.J. PELOQUIN. Frequency and mechanisms of 2n egg formation in haploid tuberosum-wild species F<sub>2</sub> hybrids, 461, (abstr).  
WHEELER, R.M., K.L. STEFFEN, T.W. TIBBITTS and J.P. PALTA. Utilization of potatoes for life support systems II. The effects of temperature under 24-H and 12-H photoperiods, 639.  
WHEELER, R.M. and T.W. TIBBITTS. Utilization of potatoes for life support systems in space, I. Cultivar-photoperiod interactions, 315.  
WHITE, G.B., *see* Farmer, G.S.  
WHITE, R.P., *see* Ivany, J.A.  
WIERSEMA, S.G. The effect of density on tuber yield in plants grown from true potato seed in seed beds during two contrasting seasons, 465.  
WIERSEMA, S.G. and R. CABELLO. Comparative performance of different-sized tubers derived from true potato seed, 241.  
WOLKOWSKI, R.P., *see* Bundy, L.G.

- WYMAN, J.A., J.F. WALGENBACH, W.R. STEVENSON and L.K. BINNING. Comparison of aircraft, ground-rig and center pivot irrigation systems for application of pesticides to potatoes, 297.
- ZAAG, P. VANDER, *see* Acasio, F. and Hoang, V.T.
- ZAAG, P. VANDER and C. KAGENZI. The phosphorus requirements of five consecutive potato crops on an Adept in Rwanda, 121.
- ZITTER, T.A., M. WANG and E.D. JONES. Serological detection of two potato viruses in samples from Florida test plots, 462, (abstr).

## Subject Index

- Aborted seeds, 420  
 Absciscic acid, 626  
 Acid tolerant scab, 456  
 Activated charcoal, 181, 183-7  
 Activated sludge, 435  
 Aeration, 619  
 Aerial tubers, 625  
 A405, 338  
 Agtron, 367-70  
 Agtron readings 101, 106  
 Air drying, 491  
 Analytical Methods  
     ELISA, 210, 357-61, 462  
     IF procedure, 541  
     immunofluorescence, 533, 537-9  
     LAT, 357-61  
 Antibiosis, 442  
 Bacteria  
     *Bacillus thuringiensis*, 450  
     *Corynebacterium sepedonicum*, 411, 413, 427, 533, 535, 537-41  
     *Erwinia*, 5, 8, 9, 10, 428, 517-8, 629-32, 636  
         spp., 518  
     *carotovora*, 1, 8, 88, 428, 459, 481-2, 485, 488, 517-29  
         *atroseptica*, 1, 2, 5, 6, 417, 517-8, 521-2, 528, 629, 631, 636  
         *carotovora*, 1, 2, 3, 5-9, 483-4, 486-7, 631, 636  
     *chrysanthemi*, 518  
     *Escherichia coli*, 445  
     *Nitrobacter* spp., 71, 73, 75  
     *Nitrosomonas* spp., 71, 72, 75  
     *Pseudomonas solanacearum*, 136, 424, 453  
     *Staphylococcus aureus*, 541  
     *Streptomyces* spp., 440  
         *scabies*, 427, 697  
 Bacterial ring rot, 701  
 Bacterial soft rot, 1, 96, 481-2, 490-1  
 Bio mass, 319  
 Bioassay, 357  
 Bioregeneration, 315  
 Biotron, 317  
 Blackleg, 1, 2, 418, 428  
 Blackspot, 13-6, 20-2, 655  
 Blotch, 87  
 Breaking dormancy, 182, 376  
 Breeding for resistance, 437-8, 453  
 Breeding goals, 441, 457  
 Brown fleck, 87  
 Bruising device, 17  
 Bulk selection, 207, 209, 213  
 Calcium deficiency, 87-8, 90-1, 95, 660  
 Calvin cycle, 325  
 Canopy density, 54-5  
 Casparian strip, 60  
 Cell size, 609  
 CELSS, 639  
 Center pivot irrigation, 307, 313  
 Chemical assay, 553  
 Chemical properties of soils, 122  
 Chemicals  
     Acetic acid, 487-8  
     Ammonium, 71  
     Ascorbic acid, 421, 484-5  
     Boron, 448  
     Bromoethane, 373-6  
     Ca, 665, 672  
     Calcium acetate, 485-7  
     Chlorogenic acid, 473-475  
     Cinnamic acid, 484-5  
     Citric acid, 481, 484-5, 487-8  
     CO<sub>2</sub>, 373, 619-24  
     Ethanol, 373-5  
     Epson salt, 426  
     Ethylene chlorhydrin, 376  
     Gibberellic acid, 181, 183, 186-7, 626  
     Hypochlorous acid, 481, 483  
     K, 92, 552, 665-7, 670-2, 679-5, 678-80  
     Magnesium, 91, 93, 665, 667, 669, 672, 674, 680  
     Magnesium sulfate, 426  
     Malonic acid, 484-5  
     NaOCl, 485, 487-9  
     NH<sub>4</sub>, 71, 72, 79  
     Nitrate, 71  
     N<sub>2</sub>, 621  
     NO<sub>3</sub>, 71  
     Oxygen, 619, 621-3  
     Potassium acetate, 487  
     Potassium sorbate, 484-6  
     Sodium cinnamate, 485-6  
 Chemigation, 61, 297  
 Chilling, 363, 365  
 Chip color, 99-101, 108-9, 363, 367-8  
 Chip processing, 99  
 Chlorophyll fluorescence, 325, 329, 330, 683-4, 686-93  
 Chocolate spot, 87

- Colonizing aphids, 335  
Compensation, 113  
Compensatory growth, 25, 35  
Container volume, 409  
Contaminated irrigation water, 528  
Continuous light, 639, 643, 646  
Control, 155  
ct-genome, 435  
Cull tubers, 385  
Cut seed, 432  
Cytokinins, 626  
Damage index, 499  
Dark respiration, 440  
Defoliation, 455  
Dehydration avoidance, 263  
Dehydration tolerance, 263  
Desiccation, 545, 547, 552  
Diffused light storage, 162  
Direct sowing, 465  
Disease-free seed, 399  
Disease resistance, 47, 229, 629  
Dispersal, 517  
Drip irrigation, 442-3  
Drought resistance, 263  
Dry matter partitioning, 439  
Dry weight, 645-6  
Early blight, 229, 431, 444, 701, 703  
Early dying disease, 3  
EBA, 553-7  
EBN, 416-7  
Electron micrograph, 609  
Electrophoresis, 447  
Electrophoretic markers, 420  
Electroporation, 445  
Emergence, 194-5, 198-9, 201-2  
Enzymic browning, 553-4  
Epidemiology, 47, 517  
Ethylene, 626, 655-62  
Fertigation, 62, 442  
Fertilization, 61  
Fertilizer, 546  
Fertilizer input, 435  
Fertilizer recommendation, 665  
Flowering, 430, 459  
Food process simulator, 438  
4x-2x crosses, 415, 417, 420  
Free amino acids, 100  
Fructose, 363, 369-70  
Fumigation, 71, 73  
Fungi  
    *Alternaria*  
        *alternata*, 441-2  
        *solani*, 229-31, 303-6, 311, 313, 425, 433, 441-2, 444  
        *cumartii*, 697-8  
    *Fusarium*, 203, 629, 631-3, 636-7, 661  
        *roseum sambucinum*, 629-31, 633-4, 636-7  
        *solani coeruleum*, 629-31, 633-4, 636-7  
    *Phytophthora*  
        *infestans*, 47-50, 53, 55, 300, 304-6, 428, race 1, 2, 3, 4, 49  
        race 1, 3, 4, 5, 49  
        race 1, 3, 4, 5, 7, 49  
    *Rhizoctonia*, 203  
        *solani*, 419, 446, 697  
    *Thecaphora solani*, 559, 561  
    *Verticillium*  
        *dahliae*, 71, 419, 452  
        *tricorpus*, 419  
    *Verticillium* wilt, 74, 701, 703  
Fungicide, 47  
Fungicide use, 425  
GCA, 142, 144-5, 147, 150  
Geotropism, 661  
Germination of TPS, 184-5  
Germplasm collection, 423  
Glandular trichomes, 473-4, 553  
Gram stain, 412  
Ground cover, 468  
Growing degree days, 665, 667, 670, 675-9  
Growth models, 452, 456  
Handling, 363, 365, 371  
Hand pulling, 446  
Haploids, 461  
Haulm growth, 241, 244  
Heat injury, 693  
Heat necrosis, 87  
Heat tolerance, 430, 440, 451, 683-4  
Heritability, 229  
High temperature, 95  
High yielding crosses, 150  
Hill selection, 207, 209, 213  
Hollow heart, 155, 159, 160, 609-11, 613, 701  
Hopperburn, 39  
Hoyer's solution, 419  
HPLC, 473-5  
Humidified air, 655, 657-60  
ICP-OES, 89  
Inbreeding, 436  
Inoculum source, 517  
Insecticide tolerance, 81  
Insects  
    *Aphis nasturtii*, 325  
    Colorado potato beetle, 81, 415-6, 423, 442,

- 448-9, 455, 461  
*Edovum shawi*, 452  
*Empoasca fabae*, 39, 40, 302-3, 305, 307, 311-2, 423  
*Epitrix cucumeris*, 423  
*Leptinotarsa decemlineata*, 41, 81, 233, 303-5, 307, 416, 419, 423, 442, 448  
*Liriomyza huidobrensis*, 421  
*Lygus lineolaris*, 305, 307, 311-2  
*Macrosiphum euphorbiae*, 335-8  
Mites, 457  
*Myzus persicae*, 81, 325, 337  
*Phthorimaea operculella*, 421, 449, 450, 454, 460  
*Premnotrypes*, 421  
Potato aphids, 335  
Springtails, 457  
Integrated control, 47  
Internal browning, 87  
Internal brown spot, 87, 91-2, 95  
Internal necrosis, 87  
Internal physiological necrosis, 87  
Internal rust spot, 87  
*in vitro* culture, 399, 439  
IPM, 421, 454  
Irradiance, 315, 319-20  
Irradiation, 429  
Kantsky effect, 326  
Lamella, 609, 613, 615  
Late blight, 47, 53, 152, 703  
Latent infection, 534  
Leaf analyses, 665  
Leaf conductance, 325, 328, 330  
Leaf shape, 434  
Leakage of solutes, 271  
Lenticel infection, 458  
Lenticels, 619-20, 622  
Leptine alkaloids, 455  
Leptine glycoalkaloids, 419  
Life support systems, 315  
Limonin, 415  
Maillard reaction, 100  
Male sterility, 460  
Marketable yield, 113  
Mean tuber weight, 32-3, 42  
Mechanical aid, 131  
Mechanical transplant, 402  
Mechanization, 131  
Megasporogenesis, 447  
Mehlich-I extractive, 665  
Meristem tip culture, 413  
Micro applicator, 82  
Mini tubers, 458  
Missing hills, 29, 34  
Models for pest damage, 452  
N, 61, 100-1, 385, 387, 389, 394, 401, 439, 446, 545, 551  
Nematodes  
*Globodera pallida*, 697  
*Meloidogyne incognita*, 437, 450  
*chitwoodii*, 429  
*Pratylenchus*, 419  
*penetrans*, 424, 452  
N. fertilizer, 251-3, 255-61  
N fertilizer efficiency, 61  
N leaching, 62  
N rates, 99  
Neo-tuberosum, 207, 219  
Nitrate leaching, 385  
Nitrate-nitrogen, 379-81  
Nitrifying bacteria, 71  
Nitrogation, 62  
Non-persistent transmission, 335  
Non-reducing sugar, 160  
Number of tubers, 113  
Nymphal infestation level, 39, 43  
OH-tomatidenol, 455  
OP seed, 444, 467  
Optimum N fertilizer rates, 61, 68  
Osmotic potential, 325, 329  
Osmotic pressure, 649, 651  
Ovarioles, 233-5  
Over wintering, 1  
PAA  
Advance registration for 1986 annual meeting, 171  
Announcement of 71st annual meeting, 583  
Budget 1986-87, 590  
Call for nominations for honorary life members, 585  
Call for papers for 1987 annual meeting, 581  
Committees for 1986-87, 607  
Financial audit, 589  
Graduate student awards, 584  
Journal distribution list, 353  
Life members  
William R. Corrin, 507  
Myron D. Groskopp, 505  
Edward D. Jones, 501  
Stanley J. Peloquin, 503  
Membership list 1986, 341

- Membership questionnaire, 111  
 Minutes of 1986 annual meeting, 567  
 Notices  
     Blackleg Conference Report, 334  
     "Buy USA" Certification Program, 38, 98  
     Chipping Potato Seminar, 515  
     EAPR Virology Section Meeting, 70  
     Nell Mondy honored, 398  
     Pest management guide, 206  
     *Potato Abstracts*, 513  
 Obituaries  
     Melvin H. Rominsky, 509  
     Lawrence A. Schaal, 511  
 Papers published in volume 28 (1985) of *Potato Research*, 277  
 Program for 70th annual meeting, 283  
 Reports  
     Advertising manager, 591  
     Auditor, 589  
     Business Editor, 592  
     Editorial Office, 593  
     Finance Committee, 590  
     Graduate Students, 597  
     Honorary Life Membership, 598  
     Journal Review Committee, 598  
     Journal Review, 599  
     Membership, 595  
     Membership Secretary, 596  
     Site selection, 598  
     Treasurer, 586  
 Standing committees  
     Breeding and Genetics, 600  
     Extension, 602  
     Pathology, 604  
     Physiology, 605  
     Seed certification, 601  
     Utilization, 606  
 Parameters, 113  
 pBR322 Plasmid, 445  
 Pesticide application, 297  
 Pesticides  
     acephate, 300, 307, 313  
     alachlor, 63, 253, 301, 309-10  
     aldicarb, 63, 81-5, 82, 83, 84, 85, 253, 307, 312  
     azinphos-methyl, 48, 81, 82-4  
     bromoethane, 45  
     captan, 191, 192, 194-201, 203-4, 448  
     carbaryl, 305-308  
     captafol, 305-6  
     carbamates, 423  
     carbofuran, 48  
     CGA 78039, 481, 485, 489, 491  
     chloropicrin, 72  
     chlorothalonil, 47-8, 53, 299, 300, 306, 313, 441  
     clorox, 3  
     dazomet, 450, 559  
     D-D, 72, 74-7  
     DDT, 81-2, 84  
     diazinon, 456  
     dieldrin, 81  
     diquat, 545-5  
     disulfoton, 81-4  
     dithane M45, 192, 194-6, 198-202  
     Dowfume Mc 2, 559  
     endosulfan, 81-4  
     EPTC, 300-1, 303-4  
     fenvalerate, 81-4, 300, 302-3, 305, 307-8, 312-3  
     linuron, 48, 301, 309  
     maleic hydrazide, 88, 96  
     mancozeb, 48, 300, 302-3, 305-6, 441, 560  
     manzate, 448  
     metalaxyl, 441  
     metam-sodium, 418  
     methamidophos, 300, 305, 307, 308, 313, 401  
     metribuzin, 48, 63, 253, 300-1, 303-6, 309-10  
     Mocap, 428, 429  
     organochlorines, 423  
     oxytetracycline, 418  
     parathion, 48  
     PCB, 563-5  
     pendimethalin, 301, 309-10  
     permethrin, 300, 302, 307, 312-13  
     phenothoate, 450  
     phorate, 82  
     pyrethroids, 423  
     TBZ, 191-204, 436  
     Telone-C17, 72-7, 77  
     Temik, 48, 428-9  
     thiophanate methyl, 436  
     triphenyltin hydroxide, 300, 302-3, 305-6, 313  
     Vapam, 72-7, 428-9  
 Petiole sampling, 393  
 Phenolic constituents, 473, 475-6  
 Photoperiod, 315, 459, 640-1, 645  
 Physiological maturity, 100  
 Pigmented tuber flesh, 419  
 Plant growth, 319  
 Planting date, 88



Plant density, 465, 469

Plant species

*Amaranthus retroflexus*, 310

*Azadirachta indica*, 450

Beets, 563

Cabbage, 564

*Capsella bursa-pastoris*, 310

Carrot, 563

*Chenopodium album*, 310

Corn, 564

Sugarsweet, 424

*Echinochloa crus-galli*, 310

Eggplant

Black Beauty, 427

*Eucalyptus globulus*, 450

Fescue, 563

*Gomphrena globosa*, 357-9, 361

*Lantana gamara*, 450

*Mithostachys*, 450

*Nicotiana*, 447

*debneyi*, 357-61

*tabacum*, 335

Oats

Garry, 424

Astro, 424

*Polygonum*, 447

Radish, 563

*Raphanus sativus*, 427

Rye

Frontier, 424

Sangaste/Dakold, 424

Aroostook, 424

*Setaria faberi*, 310

*lutescens*, 310

Sorgo-sudan grasses, 426

Soybean, 563

*Stripa trichotoma*, 182

Tobacco, 338

*Trifolium*, 182

*Triticum durum*, 35

Turnip, 563

Wheat

Redcoat, 424

*Zea mays*, 35

Plant stand, 25

Plant stress, 155, 161

Polyethylene bags, 491

Polyphenoloxidase, 473, 478

Potato, 619

Potato breeding, 229

Potato cultivars

New

NorKing Russet, 701-7

Serrana INTA, 695, 697-8

Old

Alpha, 273, 683, 685, 687

Atlantic, 92-3, 99, 101-3, 106-9, 204,

273, 366, 368-9, 438-40, 445, 454, 683

685, 687

Atzimba, 243, 433, 445, 467

Avon, 447

Bake King, 49, 52

Belchip, 99, 101-3, 106-9, 366, 368-9

BelRus, 417

Berolina, 441

Bintje, 336-7, 447, 457, 535, 551, 683,

685, 687

Butte, 417-8

Caribe, 683, 685, 687

Centennial Russet, 399, 401-2, 404-6,

408, 418

Cherokee, 447

Chippewa, 437, 556

Coliban, 454

Cosima, 441

Crystal, 611-3, 615-6

Cuzco, 559, 561

Denali, 99, 101-3, 106-9

Desiree, 273, 325-6, 439

Earlaine, 696

Elba, 51-2, 142, 146

Green Mountain, 49, 52, 447

Huancayo, 561

Hudson, 49, 50, 52-4, 143, 447

Huinkul MAG, 696-7

Idit, 439

Irish Cobbler, 155

Jemseg, 336, 447

Katahdin, 28, 31-2, 35, 39, 40, 43, 45,

49, 52, 143, 145-7, 149-51, 336, 373-6,

379-80, 416, 426, 442, 448-9, 455,

556-7, 563, 565, 632

Kennebec, 28, 31-2, 35, 49, 52, 315,

317-20, 336-7, 359, 363, 365-70, 373-6,

431-2, 445, 447, 458, 545-6, 550-1,

632-3, 640, 661, 683, 685, 687, 702

LaChipper, 191, 203

Lemhi, 443

Lemhi Russet, 632-3

Malirahinda, 122, 124-5, 127

Mavira, 450, 559, 561

Mavis Piper, 429

Merrimack, 437

Mi Peru, 559, 561

Monona, 49, 50, 52, 54, 99, 101, 103,  
105, 108-9, 191, 196-7, 204, 363, 365-8,  
370, 632

Nooksack, 251-2, 256, 258-61, 418, 443,  
447, 632, 702

Norchip, 49, 52, 99, 100-1, 103, 105-9,  
315, 317-20, 363, 365-70, 441, 447,  
632, 702

Norgold, 634

Norgold Russet, 1, 3, 5, 6, 8, 155-60,  
204, 428, 439, 610-16, 632-3, 650,  
703, 705-7

Norland, 143, 147-50, 315, 317-21, 359,  
413, 446, 639-46

Ontario, 191, 203

Orit, 439

Participacion, 559, 561

Pentland Dell, 429

Peruanita, 559

Pioneer, 632, 634

Raritan, 263-4, 266, 268-70

Record, 429

Red Pontiac, 336-7, 411, 413, 535, 683,  
685, 687

Redsen, 438

Revolucion, 559, 561

Rosa, 49, 52-3, 143, 147, 159-51, 363,  
365-70, 457

Rosita, 561

Russet Burbank, 1, 3, 4, 5, 8, 35, 57, 61,  
63, 71-3, 88-9, 93-5, 99, 101, 103, 105-9,  
204, 251-2, 261, 298, 301, 303-4, 306-9,  
311, 336-8, 359, 373-5, 387, 394, 399,  
401-2, 404-6, 408, 411-3, 419, 436,  
439, 441, 443, 445, 481, 484, 486-9,  
535, 546, 619, 632-3, 640, 649, 651,  
655-61, 683, 685, 687, 703-7

Sable, 447

Saco, 447, 455

Sangema, 122, 124-6

Saranac, 696

Sebago, 49, 50-52, 54, 551, 683, 685,  
687

Selecta Balcarce 13, 696

Shepody, 263-4, 266, 268-74, 336-7,  
683, 685, 687

Spunta, 273

Superior, 8, 49, 52, 204, 315, 317-20,  
424, 446-7, 481, 488, 640, 683, 685,  
687

Targhee, 632, 634

Viking, 611-3, 615-6

Wauseon, 633

White Rose, 458, 656

Yukon Gold, 447

Yungay, 560,

Numbered seedlings

7XY.1, 445

245-2, 114

6958.52, 559, 561

375587.2, 561

376181.5, 559, 561-2

376608.2, 561

378015.16, 445

378143.5, 562

378243.5, 561

A125-2, 145, 147, 149, 151-2

A128.1, 146-9, 151-2

A140-2, 146

A140-11, 145-9, 151-2

A146-4, 146

A146-9, 145-7, 149, 151

A158-1, 145-9, 151

A158-4, 145-9

A177-52, 702

A182-6, 146

A188-3, 146-9

A225-3, 145-9, 151

A225-8, 146

A231-1, 146-9, 151

A233-1, 146-9, 151

A236-2, 146

A252-2, 146-9, 151-2

A252-3, 146

A252-6, 146

A501-13, 702

A589-65, 634

A69868-2, 634

A74114-4, 629, 633

A76260-16, 629, 633

ADX 248-16, 417

ADX 513-1, 417

ASN 69.1, 561

ATD 63-2, 417

ATD 63-7, 417

B2.63, 695-6

B24-58, 702

B70.178.2, 695

B96-56, 702

B113-6, 146-9, 151

B116-1, 147, 149, 151

B120-2, 147, 149, 151

B127, 702

B163-3, 147, 149, 151

- B168-5, 147, 149, 151  
 B168-6, 147, 149, 151  
 B3692-4, 114  
 B5141-6, 702  
 B6705-10, 39-41, 43, 45  
 B6930-1, 39-41, 43, 45  
 B7906-1, 113-20  
 BR6316-7, 629, 633  
 CFK-69.1, 433  
 CIP379706.27, 423  
 CI-937, 143, 145-7, 149, 151-2  
 D860-5, 554  
 DTO-33, 243-5, 247, 466, 467  
 FL-657, 383  
 J114-1, 554, 557  
 J115-1, 554-5, 557  
 LT-2, 143, 145, 147, 149-52  
 LT-8, 423  
 Maine 47, 445  
 MPI59703/21, 695-6  
 ND622-4Russ, 156, 158-9, 611-3, 615-6  
 NDA8856-11, 634  
 ND6911-5, 702  
 ND7196-18, 702  
 ND8603-6, 702  
 NY59, 49  
 NY66, 142-3, 145-6, 151, 209  
 PP5, 439-40  
 Q155-3, 143  
 r128.6, 446  
 T210, 147-149, 151  
 T238, 146-7, 149, 151  
 T243, 145, 147, 149, 151  
 T235, 147, 149, 151  
 T293, 145, 147, 149, 151  
 T295, 147, 149, 151  
 T296, 147, 149, 151  
 U709-3, 143  
 USW225, 455  
 USW2225, 445  
 W231, 437  
 W760, 438  
 W842, 438  
 WN245-2, 634  
 WNC521-12, 418  
 WRF362, 449  
 Potato diseases  
   Late blight, 431, 438  
   Ring rot, 533  
   Potato scab, 427, 701, 703  
   Potato smut, 559  
 Potato DNA, 434  
 Potato fertilizer, 385  
 Potato growth models, 422, 440  
 Potato handling, 131  
 Potato planter performance, 25  
 Potato planters, 26  
 Potato plantlets, 399  
 Potato varieties, 99  
 Potato vine silage, 322  
 PRECODEPA, 237  
 Pre-selection, 120  
 Pressure potential, 325, 328-9  
 Processing decision making, 452  
 PROCIPA, 431  
 Protoplasts, 418  
 Potato species  
   *Solanum* spp., 434  
     *acaule*, 185, 425  
     *berthaultii*, 424, 430, 449, 453, 473-8,  
       553-4, 556-7  
     *boliviense*, 425  
     *brevidens*, 425  
     *bukasovii*, 425  
     *bulbocastanum*, 424  
     *capsibaccatum*, 449  
     *cardiophyllum*, 424, 434  
     *chacoense*, 185, 416-7, 419, 421, 424,  
       442, 445, 449, 453, 455  
     *chomatophilum*, 188  
     *commersonii*, 185, 416-7, 447  
     *demissum*, 185, 336, 424  
     *gandarillasii*, 425  
     *leptophyes*, 425  
     *megistacrolobum*, 424-5  
     *microdontum*, 417, 418, 425, 453  
     *morelliforme*, 185  
     *multiinterruptum*, 185, 188  
     *okadae*, 425  
     *peloquinianum*, 425  
     *pinnatisectum*, 424, 449, 453  
     *polyadenium*, 424, 449, 453, 473-8, 553,  
       555-6  
     *polytrichon*, 424  
     *sanctae-rosae*, 425  
     *sogarandinum*, 425  
     *sparsipilum*, 425, 448, 453-4  
     *tapojense*, 425  
     *tarijense*, 424, 430, 449  
     *trifidum*, 449, 453  
     *tuberosum*, 25, 39, 40, 57, 61, 63, 71, 87,  
       121, 141, 155, 207, 219, 263, 315, 317,  
       325, 359, 363, 373, 379, 399, 411, 415,  
       419, 427, 431, 439, 448, 454-5, 457,

- 482, 545, 553, 629, 639, 641, 665,  
683  
*andigena*, 141, 417-8, 422, 427, 434-5,  
444, 454, 457, 460, 633  
*phureja*, 229-30, 417, 425, 427, 429,  
439, 441, 453  
*stenotomum*, 229-30, 429, 448  
*verrucosum*, 425  
*weberbaueri*, 185  
Rainfall, 668  
Rapid growth, 95  
Recurrent selection, 429  
Reduced tillage, 461  
Reducing sugar, 100  
Reducing sugars, 363  
Residual P, 121  
Reflectometer values, 19  
Reflectometry, 13, 18  
Relative humidity, 619, 625  
Relative yield curve, 68  
Resistance, 449, 453-4, 460, 478  
Resistance ratio, 83  
Rindite, 376  
Ring rot, 413  
Root anatomy, 57, 58, 59  
Root growth, 655, 662  
Root injury, 445  
Root knot nematode, 451  
Sap dilution, 357, 360-1  
Scab, 440  
SDS, 425  
Secondary tubers, 191, 195, 198-9, 201-2  
Serogroups, 1-29, 4  
    Serogroup 1, 7  
    Serogroup 3, 1, 4, 6, 7  
    Serogroup 5, 6, 7  
    Serogroup 7, 7  
    Serogroup 11, 7  
    Serogroup 12, 7  
    Serogroup 15, 6, 7  
    Serogroup 16, 6  
    Serogroup 17, 7  
    Serogroup 27, 6  
    Serogroup 29, 1, 4, 6, 7, 8, 9  
Seeder, 131, 133  
Seed distribution, 25  
Seedling propagation, 219, 226  
Seedling vigor, 425  
Seed piece decay, 201-2  
Seed piece dormancy, 251  
Seed spacing, 29-30  
Seed storage, 432  
Selfed seed, 444  
Sewage sludge, 563  
Sex pheromone, 450  
Shading, 457  
Sim-Tec 0.5, 193, 200-1  
Soft rot, 2, 417-8, 428  
Soil solarization, 450-1  
Soil temperature, 428  
Soil testing, 665  
Solution P, 121, 123  
Sludge, 379-80  
Specific gravity, 65, 67, 99-101, 104, 107, 251,  
255, 257, 430, 698  
Sprout damage, 87  
Sprout growth, 655-60  
Sprouting, 373, 375  
Stem cutting, 411  
Stem density, 115-6  
Stem length, 639, 642  
Stem number, 241, 436  
Stem rot, 1  
Stem thinning, 113-4, 118  
Stolons, 619, 622-4  
Stolon roots, 57, 58  
Stone windrowing, 495  
Storage loss, 429  
Storage stability, 100, 107-9  
Storage studies, 131, 136  
Streptomycin, 418  
Stress resistance, 443  
Stylar barriers, 425  
Subapical necrosis, 88, 91, 93-6  
Sucrose rating, 99, 104  
Sugar content, 363  
Sugars, 649, 652  
    glucose, 363, 369-70  
    sucrose, 363, 369-70  
Surface water, 517, 521  
Systemic infection, 1  
    Technology transfer, 237  
Temperature, 121, 128, 683, 685, 688, 691-2  
Thylakoid membrane, 331, 684-5  
Tissue culture, 399, 400-1  
Tissue fixation, 611  
Tissue sampling, 612  
Tobacco mosaic, 447  
Tolerance, 442  
Total solids, 701  
Total yield, 99, 100, 102, 104-6  
TPS, 131-3, 137, 141-2, 181-2, 207, 215, 219-20,  
241-2, 246, 415, 426, 431, 433, 441, 444,  
446, 448, 459, 465-70

UNI MICROFILMS INC  
33 N. ZEEB ROAD  
ANN ARBOR, MI.

(C)

48103



728

AMERICAN POTATO JOURNAL

(Vol. 63)

- Transplants, 219, 221  
Transpiration, 269  
Transplant clipping, 131, 135  
Tuber dry matter, 430  
Tuber grade, 65, 67, 255-6  
Tuber induction, 640  
Tuberization, 451, 619, 687  
Tuber numbers, 212, 468, 642  
    tuber peeling loss, 14  
    tuber pith cells, 609, 616  
    tuber quality, 426, 437  
    tuber roots, 57  
    tuber size, 144, 155, 241  
    tuber size distribution, 222  
    tuber weight, 146-7, 212  
    tuber yield, 65-7, 73-4, 78, 245, 247, 258-9,  
        404-5, 455, 465, 469  
Tubers per hill, 42, 44  
2n eggs, 420, 461  
Turgor pressure, 649, 650  
2x+2x crosses, 417  
Type A trichome, 553, 555  
Unreduced pollen, 430  
Vascular discoloration, 545, 547  
Vigor, 427  
Vine killing, 405, 408  
Virus carrier, 338  
Virus spread, 335  
Virus vector, 335, 338  
Virus diseases  
    BWYV, 462  
    PLRV, 210-1, 431-2, 462, 695  
    PVY, 152, 210-1, 335-6, 338-9, 442-3, 446  
    PVYN, 695, 697  
    PVYO, 695, 697  
    S, 357-61  
    X, 357-61, 422-3, 431, 445, 695, 697  
Warm climate, 465, 470  
Water potential, 325, 328-9, 609, 613, 615,  
    649-50  
Water relations, 263  
Water stress, 95  
Weed control, 309, 461  
Whole seed, 432  
Yield, 32-3, 39, 42, 44, 158, 194-5, 198-9,  
    201-2, 212, 221, 241, 251, 255, 304, 318,  
    385, 389-91, 399, 406, 427, 430-1, 435-6,  
    445, 450, 452, 457-8, 461, 465, 550-1,  
    639-40, 665, 668, 671, 673, 677, 696, 704  
Yield components, 373  
Yield response, 125

